AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A radio network controller comprising:

a plurality of functional modules, wherein the functional modules at least comprising: an ATM interface module, an interface management module, a radio signaling management module and a radio bearer processing module, characterized in that the radio network controller replaces an ATM switch with an IP switching network to achieve data and signaling exchange among the above functional modules in the radio network controller.

2. (Currently Amended) The radio network controller according to Claim 1, ~~characterized in that,~~ wherein the IP switching network supports QoS.

3. (Currently Amended) The radio network controller according to Claim 1, ~~characterized in that,~~ wherein each of the functional modules respectively comprise at least one functional board, and the functions of each of the functional modules are respectively achieved in different functional boards.

4. (Currently Amended) The radio network controller according to Claim 1, ~~characterized in that,~~ wherein each of the functional modules are arranged in a single chassis to form a elementary unit of the radio network controller.

5. (Currently Amended) The radio network controller according to Claim 4, ~~characterized in that,~~ wherein the IP switching network is an IP switching module contained in the chassis, and each of the functional modules achieves data and signaling exchange inside the radio network controller by connecting with the IP switching module.

6. (Currently Amended) The radio network controller according to Claim 1, ~~characterized in that,~~ wherein the ATM interface module and the radio bearer processing module, after being extended, are configured in at least one extended chassis, such that the radio network controller further comprises at least one extended unit of the radio network controller.

7. (Currently Amended) The radio network controller according to Claim 6, ~~characterized in that,~~ wherein the IP switching network comprises a group of IP switching modules and concentrator routing switches, wherein the IP switching module connects each ~~of each~~ of the functional modules in the elementary unit and extended unit of the radio network controller, and the concentrator routing switch connects the units via the IP switching module in the elementary unit and extended units of the radio network controller.

8. (Currently Amended) The radio network controller according to Claim 6, ~~characterized in that,~~ wherein the number of the interface ATM boards constituting the ATM interface module is configured according to the data flow of the interfaces and the number of the ports required to be provided, and the number of the radio bearer processing boards constituting the radio bearer

processing module is configured according to the number of the users to be supported and the data flow.

9. (Currently Amended) The radio network controller according to Claim 4 ~~or 6, characterized in that,~~ wherein each of the functional modules comprise information filling means for filling in a DiffServ field of an IP header to be transmitted.

10. (Currently Amended) The radio network controller according to Claim 5 ~~or 7, characterized in that,~~ wherein the IP switching module or the concentrator routing switch comprises reading means for reading a DiffServ field of an IP header of a data package.

11. (Currently Amended) The radio network controller according to Claim 1, characterized in that, the interface ATM board constituting the ATM interface module comprises means for achieving IP/ATM conversion, for providing a standard ATM interface between the radio network controller and an external network element.

12. (New) The radio network controller according to Claim 6, wherein each of the functional modules comprise information filling means for filling in a DiffServ field of an IP header to be transmitted.

13. (New) The radio network controller according to Claim 7, wherein the IP switching module or the concentrator routing switch comprises reading means for reading a DiffServ field of an IP header of a data package.